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ABSTRACT

Conceived by the Minnesota State Legislature, the Minnesota Educational Effectiveness Program is a school improvement and staff development program. Its participants perceive the program as a method for identifying areas of concern and for providing staff with the processes to effect change. As of September 1987, 328 Minnesota schools are in various stages of program implementation. This report summarizes the program's major activities and accomplishments during the 1986-87 school year, including (1) the use of grounded theory methodology to explain the program's operation; (2) development of a student achievement results database and accompanying test battery composite score; (3) no pattern of statistically significant change in baseline test scores for tested grade levels (except grade 9) at the research and development sites; (4) positive changes occurring at the R & D sites; (5) emerging concerns regarding program evaluation; (6) the importance of depth of participation; (7) identification of the principal's role and level of training as important school improvement success variables; and (8) expansion of the program to develop greater local support for schools. The report recommends that (1) the test results database be developed and expanded; (2) regional facilitators work with sites in using the formative evaluation process; (3) educators at all levels recognize variables affecting a school's success in implementing an improvement program; (4) state-level staff clarify roles of regional and local coordinators and encourage networking between the two groups; and (5) state-level staff and the program's advisory task force constantly explore alternatives and components enhancing the program's development. (MLH)

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MINNESOTA EDUCATIONAL EFFECTIVENESS

1987 EVALUATION REPORT



Minnesota Department of Education

EA 020020

MINNESOTA EDUCATIONAL EFFECTIVENESS PROGRAM 1987 EVALUATION REPORT

Executive Summary

The Minnesota Educational Effectiveness Program is a school improvement and staff development program. Its participants perceive it as a method for identifying areas of concern. It, also, is viewed as providing the processes to enable staff to bring about change in those areas of concern.

The Minnesota Educational Effectiveness Program was conceived by the Minnesota State Legislature as a way to maintain and improve student learning in its schools. As of September, 1987, 328 schools in Minnesota are in various stages of implementing a school improvement program using the Minnesota Educational Effectiveness Program.

FINDINGS

The major activities and accomplishments for the Minnesota Educational Effectiveness Program during the 1986-87 school year include the following.

1. Grounded Theory methodology is being used to generate a theory about the operationalization of the Minnesota Educational Effectiveness Program in Minnesota schools.
2. A database of student achievement results in the areas of reading, math, language arts and test battery composite score has been developed. The database is comprised of achievement test results beginning with the 1983-84 school year through 1986-87 for 19 R & D sites.
3. For the majority of the statistical comparisons using the non-parametric Mann-Whitney U Test or the parametric t test with a z score, no statistically significant changes were found between the base line results (1983-84) and the subsequent 3 years of results in the grade levels 3, 4, 5, 6, 7, 9, and 11 for reading, math, language arts and composite test battery in the R & D sites. This means that any observed differences should be attributed as chance occurrences.

A pattern of statistically significant change was found in only one school, at one grade level and in one area. This was an increase at Grade 9 for the test battery composite score. This finding indicates that the increase should not be attributed to chance.

4. Reassessment of the status of the school improvement program in the R & D sites shows that changes have occurred in R & D sites.

The changes generally are positive and are related to the foci of their school improvement activities.

5. A new concern to emerge for R & D sites is how to evaluate its school improvement program.
6. Length of participation appears to be a determinant of patterns associated with the implementation of a school improvement program. These include: type of activities conducted, which of the 15 characteristics selected as a focus for a school improvement program, how regional facilitators are used.
7. Data gathered during 1986-87 re-identified a set of variables that if these are present in a school, it enhances a school's chance of implementing a successful school improvement program. Two additional variables were identified through data gathered during 1986-87. They are: the role of the principal and the level of training for leadership teams during the third year of involvement.
8. The Minnesota Educational Effectiveness Program has been expanded to develop a greater support for schools at the local level. A local coordinator program and Managing Productive Schools training for principals and administrators.

RECOMMENDATIONS

Based on the findings of this report, the following recommendations are offered.

1. The database of student achievement test results should continue to develop and expand. The availability of a continually expanding database will allow the program to be documented as reliable and valid.
2. Regional facilitators should work with sites in using the formative evaluation process, a component of the Minnesota Educational Effectiveness Program. This should assist sites concerned about providing evaluation information about their school improvement program.
3. SDE Educational Effectiveness staff, regional facilitators and local coordinators should be knowledgeable about variables that may affect a school's success in implementing a school improvement program. This should enable them to identify "at-risk" sites and offer the additional technical assistance that may be needed.
4. SDE Educational Effectiveness staff must continue to clarify the

roles of regional facilitators and local coordinators so that each complements the other. Also networks should continue to be built between the two groups so that each views the other as integral to the implementation of the Minnesota Educational Effectiveness Program.

5. SDE Educational Effectiveness staff and the program's Advisory Task Force should constantly explore alternatives and components that can enhance the program's development and insure the program's participants needs are adequately met.

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INTRODUCTION

The Minnesota Educational Effectiveness Program is a school improvement and staff development program. Its participants perceive it as a method for identifying areas of concern. It, also, is viewed as providing the processes to enable staff to bring about change in those areas of concern.

The Minnesota Educational Effectiveness Program was conceived by the Minnesota State Legislature as a way to maintain and improve student learning in its schools. It was developed and is administered by the Minnesota Department of Education (SDE), Instructional Design Section. As of the Fall 1987, 328 schools in Minnesota are in various stages of implementing a school improvement program using the Minnesota Educational Effectiveness Program.

OVERVIEW OF THE REPORT

This report is a summary of the progress and activities of the Minnesota Educational Effectiveness Program. The primary foci for this report are:

1. The outcomes attributed to schools' participation in the Minnesota Educational Effectiveness Program, including student achievement results.
2. The trends emerging among schools involved in the program.
3. The regional and local delivery systems that support schools implementing a school improvement program using the Minnesota Educational Effectiveness Program.

The data for this report were solicited from the following groups:

1. Leadership teams and selected staff members of all 24 R & D sites;
2. Leadership teams and selected staff members of 10% of the 94 schools in their second year of implementation (level I sites);
3. Leadership teams and selected staff members of 10% of the 116 schools in their first year of implementation (level II sites); and
4. On-going communication with SDE Educational Effectiveness staff.

Information for this report was gathered as a part of the evaluation system of the statewide program. Strategies for collecting the data vary with targeted groups.

Grounded Theory is the methodology being used for data analysis. Grounded Theory is defined as a naturalistic research approach. It allows the researcher to study a social phenomenon (e.g. the Minnesota Educational Effectiveness Program) within its natural environment (e.g. schools). It also recognizes that the most appropriate data sources about a social phenomenon are those individuals who are involved and/or affected by it. In studying the Minnesota Educational Effectiveness Program, these individuals are school personnel. The result is a theory about a social phenomenon (e.g. the Minnesota Educational Effectiveness Program) as it is being operationalized in the "real world" (e.g. the school) based on the information provided by those persons most involved with the program (e.g. school personnel). (Glasser, B.G. & Strauss, A.L. The Discovery of Grounded Theory: Strategies for Qualitative Research. Chicago: Aldine Publishing Co., 1967.)

The data collection and analysis upon which this report is based as well as the preparation of the report itself are completed by an independent evaluator as part of a contractual agreement with the Instructional Design Section of SDE.

The primary audiences for this report are the Minnesota State Legislature, particularly the House and Senate Education Committees, the Commissioner of Education and the State Board of Education. The findings reported may be helpful to the staffs of SDE, the Educational Cooperative Services Units (ECSUs) and participating schools.

DISCUSSION OF THE FINDINGS

The following is a discussion regarding the status of the Minnesota Educational Effectiveness Program in participating schools, regionally and statewide at the completion of its third year of availability and implementation in Minnesota schools.

OUTCOMES ATTRIBUTED TO EDUCATIONAL EFFECTIVENESS

Student Achievement

One of the intended long-term outcomes for the Minnesota Educational Effectiveness Program is improved opportunities for student learning that is evidenced in student achievement scores. To document progress toward this outcome, a database of student achievement test results for schools participating in the program has been developed.

At this time the database consists of the student achievement test results in the areas of reading, math, language arts and the test battery composite score. These tests results are reported by the 24 R

& D sites. A base line to which future results will be compared has been defined as the achievement test results for the year prior to any school becoming involved with the Minnesota Educational Effectiveness Program. For R & D sites, the base line year is 1983-84. Each year of their participation, in addition to the base line, R & D sites are asked to submit information about their school's student achievement test results. Thus, the database has available student achievement test results for 4 academic years.

An analysis of the database showed that any statistical comparison has some limitations. They are as follows.

1. Student achievement test results are available for 19 of the 24 R & D sites. Of the 19 schools, 4 schools have changed the achievement test they are currently administering from the one used for the base line. This makes statistical comparison problematic. In addition, another school does not use student achievement tests because of the type of student served and its mission in serving these students.
2. Four years of test results in the 4 areas of reading, math, language arts and composite of test battery are not available for all 19 schools. This may be due to testing patterns in districts. Thus, in several sites there are not sufficient data for statistical comparison at this time.
3. Grades 3, 4, 5, 6, 7, 9, and 11 are the grades in which schools most frequently reported test results. It is these grade levels that are being used for statistical comparison. It should be noted that the number of schools reporting test results for Grades 9 and 11 is very small. This may be due to the fact that students in grades 8 and beyond are tested less frequently than students in grades 7 and below.

When doing statistical comparisons, the researcher is attempting to determine if differences between two or more sets of data are due to chance. A statistically significant result indicates that the difference is so large that one say that such an outcome is not due to chance. A statistically insignificant result indicates that the difference is so small that such an outcome is due to chance.

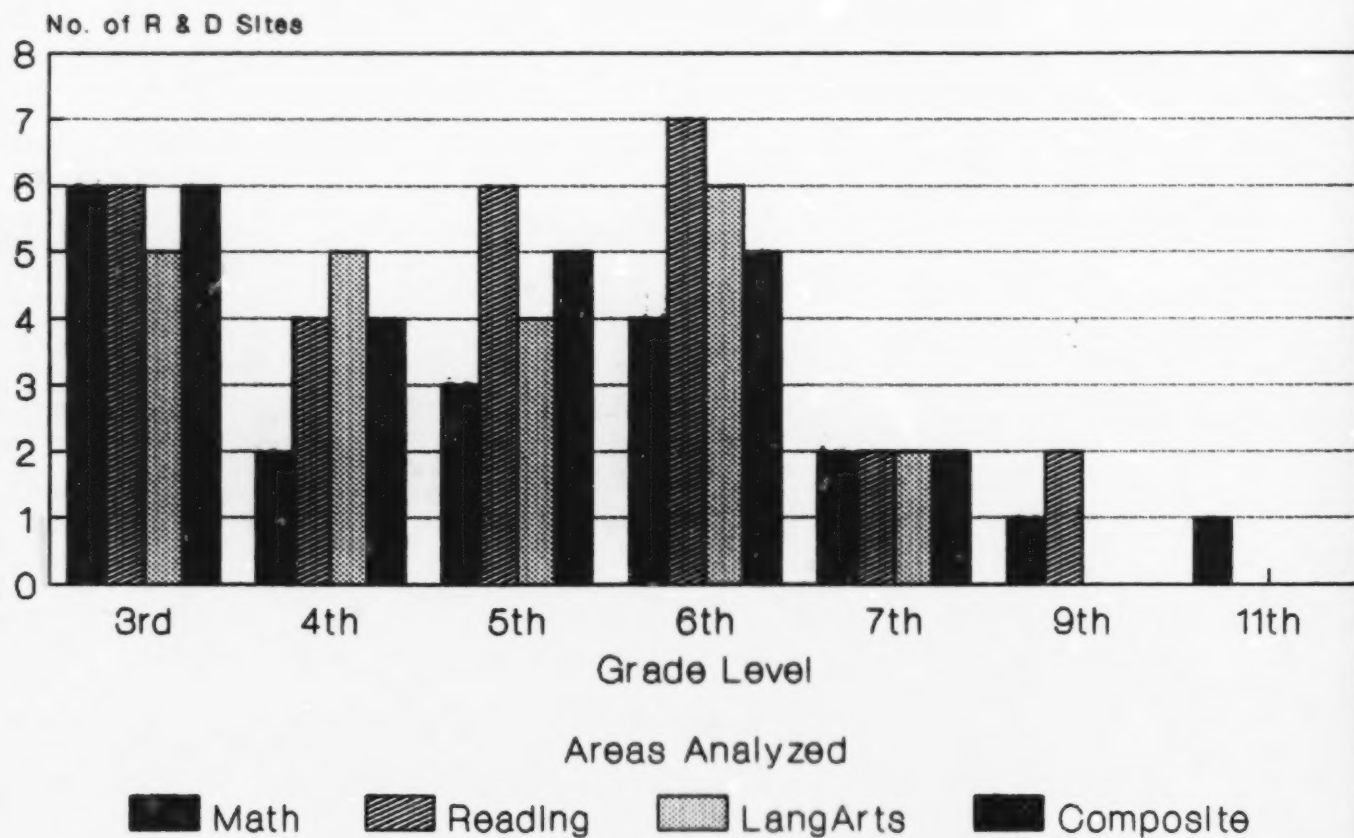
(Kaplan, L. J. Elementary Statistics for Economics and Business. New York: Pitman Publishing Corp., 1966).

Using the data that are available for statistical comparison, the results are as follows.

1. Applying the non-parametric Mann-Whitney U Test, no statistically significant changes were found in any of the content areas for any grade level in any R & D site. This indicates that any observed differences should be viewed as chance occurrences.

Table 1

No. of Schools Showing No Change



Analysis using Mann-Whitney U Test

Table 1 provides a summary of the number of schools in which no change was found according to grade level and content area.

The non-parametric Mann-Whitney U Test was used because the extent to which the results varied is not known as reported by individual R & D sites varied. This test is recognized as ". . . one of the most powerful non-parametric tests, and it is a most useful alternative to the parametric t test . . ." (Siegel, S. Non-Parametric Statistics, New York: McGraw-Hill, 1956).

2. In addition to the Mann-Whitney U Test, test results from 5 R & D sites provided sufficient information to allow another type of statistical analysis. In these schools, the group mean, the extent the scores deviated from the mean (standard deviation) and the number of students tested were known. The group mean for each year (1984-85, 1985-86 and 1986-87) was compared with the base line group mean for each grade level and content area. The parametric t test using a z score was applied with the following results.
 - A. When comparing the base line score with the scores obtained in subsequent years, the majority of the comparisons showed no significant changes. Again the differences should be attributed to chance.
 - B. A pattern of significant change in the test results for each year (1984-85, 1985-86, and 1986-87) was found in only one school at one grade level (Grade 9) and in one area (test battery composite score). The change showed a significant increase in test scores. This finding indicates that differences are sufficiently large that they should not be considered chance occurrences.
 - C. Statistically significant increases and decreases in reading, math, language arts and the test battery composite score results at various grade levels were found in each school. Although the observed differences are sufficiently large so not to be due only to chance, no pattern across academic years or grade level within individual schools emerged. The only exception is the finding described in "B" above.

Additional Outcomes

Participants in the Minnesota Educational Effectiveness Program report that changes are occurring in their schools that they attribute to program. These changes may be responsible for the creation of more and/or enhanced opportunities for student learning. Thus, these changes should be viewed as contributing to the attainment of the long-term outcome of the Minnesota Educational Effectiveness Program.

R & D sites were asked to assess their school improvement program during the fall of 1987. They were to readminister an instrument that had been used to assess their school during their initial year of involvement. The results were then compared.

Generally, the comparison showed that there have been positive changes in these schools. The areas in which there were the greatest positive changes were those areas in which the school had been focusing on as part of their school improvement programs.

One school has been focusing on generating high expectations for students, staff and administration. The results of a staff survey indicated a 25% increase in the perception that instructional objectives challenge the students. Also there was found a 22% increase in the perception that academic and extra curricular accomplishments receive appropriate recognition as well as in the perception that disciplinary measures are appropriate and consistent. As part of the school improvement program, the staff had been involved in establishing a curriculum review cycle, comparing the performance of the students on achievement tests and constructing a minimum competency test required for graduation.

In another school that was focusing on high expectations, the leadership team reported that 260 awards for academic achievement had been given during 1986-87.

Another school initiated a Student of the Month program as part of its school improvement program. On a survey about the Student of the Month program, 85% of the responding students indicated that they "work harder to be chosen..." Of parents responding to a survey about the program, 54% had a child selected as Student of the Month, 45% perceived that their child had been motivated by the program and 70% wanted to see the program continued. Of teachers responding to a similar survey, 79% perceived that the program had had a positive influence in the classroom, 75% perceived that the program was worth the extra work and 62% wanted to see the program continue.

The focus for schools implementing the Minnesota Educational Effectiveness Program has been the improvement of relationships among staff, administration, parents and students. Upon reassessment, most schools showed a perception that these relationships had improved. One school's reassessment showed that there is 100% agreement among the staff that there is a good working relationship between staff and students. This same school showed a 28% increase in the perception that students, staff and residents can participate in decision-making.

In addition, there was a perception in some schools that a time to build such relationships had been incorporated into the school calendar.

As a result of the Minnesota Educational Effectiveness Program,

participating schools, and in particular leadership teams, have become responsible for planning and implementing staff development programs. Again, respondents completing their school's reassessment indicated an awareness that their school was more involved in a school-site staff development program. Respondents, also, reported a feeling that their principals and district administrators respected the staff in their decisions about staff development and school improvement. Many schools reported an increase not only in the number of staff participating in their staff development programs but also in those implementing strategies learned through these programs.

Parental involvement has been a focus for many school improvement programs. Parent Advisory Councils have been formed. Volunteer programs begun. Parents in Education groups have been established. A teacher survey of a school volunteer program showed that approximately half the respondents had used at least one of the 100 active volunteers and were satisfied with the experience. Another school reported 158 volunteers participating in its parent volunteer program with an average of 10 persons volunteering each day for approximately one hour. In another school 10 parents are invited into the school each month.

Approximately 70% of the parents of one school attended a Parent in Education meeting. A parent survey of a Parent in Education program showed that 70% of the responding parents felt that the teachers cared about their child and that 63% perceived teachers as willing to help individual students.

TRENDS ASSOCIATED WITH EDUCATIONAL EFFECTIVENESS

Support for Educational Effectiveness

Support for the Minnesota Educational Effectiveness Program continues. This support is evidenced even though there is a shrinking pool of financial resources at all levels - state, regionally and locally.

Ninety-four (94) new schools began implementing a school improvement program in the fall of 1987. Approximately 234 other schools are at various stages of implementing a school improvement program using the Minnesota Educational Effectiveness Program.

Two (2) R & D sites have discontinued their involvement with the program. One school closed as a result of consolidation. The other has withdrawn from the program. It should be noted that this school was identified "at risk" as a result of data provided at the end of the 1985-86 school year.

Implementation of Educational Effectiveness

Stages Of Implementation - Monitoring the activities of the R & D sites as well as those schools becoming involved in the Minnesota Educational Effectiveness Program in subsequent years shows patterns in how schools approach school improvement. The patterns seem to be a function of length of participation in the program. The patterns are as follows.

Year One - This year can be best characterized as "share the spirit." The positive effect of the Leadership Team Training for the leadership team is so strong that they tend to replicate the experience for building staff. Sessions about the 15 characteristics as well as the skills and processes learned during the training are offered for the staff, district administration, parents and school board.

Being a new program for the school, leadership teams also focus on generating support and commitment to the program. Many awareness sessions which explain the program are conducted. Leadership teams work actively at gaining the support of school boards and district administration.

Year Two - School improvement programs become more focused in Year Two. Staff and leadership teams have typically limited the focus of their school improvement program to include 2 or 3 of the 15 characteristics. The staff and leadership teams are interested in exploring and learning about options that are available.

This need for exploration and learning appears to be facilitated because in many schools, the leadership team becomes responsible for planning and implementing staff development activities for the school. The staff and leadership team commit to learning about specific strategies. Examples of programs frequently selected are Cooperative Learning, Elements of Instruction and Teacher Expectations for Student Achievement.

A source of frustration for schools during Year Two is a feeling of decreased support for the program on the part of district administration and school boards. These groups do not appear to be as willing to provide time and money during the second year as they had the first year.

Year Three - Having explored and learned about options during Year Two, during Year Three staff and leadership teams appear ready and willing to try to apply the principles and strategies learned in staff development programs in classrooms.

A area to emerge for schools in Year Three is evaluation. More specifically, school boards and district administration begin to ask the effect school improvement is having in the school. Expressing their commitment to the positive impact of the school improvement

program, these schools seek strategies and assistance in this area.

Year Four - 1987-88 is Year Four. No data is yet available about school improvement activities.

Focus of School Improvement Activities - The Minnesota Educational Effectiveness Program provides the 15 characteristics as avenues to improve opportunities for student learning. Schools select characteristics which become the focus of their school improvement programs. Data show that the characteristics selected during the initial year of involvement are different than the ones selected in subsequent years. Table 2 shows a comparison between characteristics selected by R & D sites during their first year and those selected for 1986-87.

Variables Affecting the Success of a School Improvement Program

In previous years and again during 1986-87, data from schools show the emergence of variables that seem to be affecting the implementation of the Minnesota Educational Effectiveness Program. It is theorized that when these are present in a school, it has a greater chance for having a successful school improvement program. The variables identified include the following.

1. A plan for school improvement is known, shared and supported by the leadership team, building staff, district administration and the school board.
2. Building staff must be in support of school improvement efforts.
3. Being a leadership team member must be a positive experience.
4. The district administration and school board must consistently allocate resources (time and money) to support school improvement efforts beyond a school's first year of involvement.
5. In-school time must be available for leadership team planning and staff to work on school improvement activities.
6. Leadership teams must feel that they have access and receive support from designated support systems (e.g. regional facilitators). This appears to be more critical for first and second year schools than in subsequent years.

Two additional variables emerged from the data during 1986-87. They are:

1. The principal is a major key to a school improvement program. Leadership teams in their first year of implementing a school improvement program reported that the principal had been critical in getting the program "off the ground." Leadership teams in second and third years of

Table 2

Change in Focus for School Improvement Programs

MEEP Characteristics	No. of Sites 1983-84	No. of Sites 1986-87
School Climate	26	8
School Goals	25	4
Collaborative Planning & Collegial Relationships	13	4
Parental Involvement	12	8
Cooperative Learning	8	4
Order and Discipline	8	4
High Expectations	5	6
Curriculum Articulation	4	3
Teacher-designed Instruction	3	3
Bldg-level Staff Development	2	7
Flexible Grouping	2	2
School-site Management	1	3
District-wide Support	1	2
Teacher-student Interaction	1	2

Based on data provided by R & D sites

involvement reported a perception that a change in a principal had stymied or brought their school improvement programs to a halt.

Since 1984-85, principals have been changed in 6 of the 24 R & D sites.

2. Leadership team members must feel that they have the skills and knowledge needed to develop and implement a school improvement program. This variable emerged for the first time in R & D sites during their third year of involvement.

A situation that is present in every school and appears to affect the implementation of the Minnesota Educational Effectiveness Program is contract negotiations. When a school is in its first or second year of implementation, such negotiations appear to impede school improvement activities.

It should be noted that data from the R & D site that has withdrawn from the program showed the absence of several of the above variables as early as the 1985-86 school year.

SUPPORT SYSTEMS

REGIONAL SUPPORT SYSTEM

A contractual agreement between SDE and each of the 10 ECSUs enables each ECSU to provide technical assistance to schools selected as sites implementing the Minnesota Educational Effectiveness Program. The contract facilitates both SDE and ECSUs in identifying and planning for regional needs to implement the Minnesota Educational Effectiveness Program. The regional implementation of the Minnesota Educational Effectiveness Program is one of the responsibilities of regional facilitators.

Regional facilitators assist schools implement their school improvement programs. This assistance can take the following forms: administering surveys; coordinating workshops; making presentations; planning with school leadership teams.

The ways school use regional facilitators appears to be related to the length of a school's involvement in the program. First year schools report using regional facilitators to administer or provide follow-up on needs assessment instruments. Second year schools report having the regional facilitator involved in leadership team planning. Third year schools report using regional facilitators to provide additional resources and information.

LOCAL SUPPORT SYSTEM

Building support systems within a school or within a district is a new development in the Minnesota Educational Effectiveness Program. Two components - local coordinators and enhancement of principal skills - are being field tested during the 1987-88 school year.

Local Coordinators

Local coordinator is a position that districts with several school implementing school improvement programs or several districts jointly can create. A local coordinator is an employee of the district(s). The responsibilities of this position include: to provide support to school leadership teams to assess, plan, implement, and evaluate school improvement activities and to be an advocate for the program with the district administration and school board.

SDE is providing training and technical assistance to 9 local coordinators participating in this field test year.

Enhancement of Principal Skills

Research as well as data from schools implementing the Minnesota Educational Effectiveness Program show that the principal is a critical variable to school improvement programs. With turnover in principals, the continuity of support for a school improvement program may be disrupted. For example, there have been 6 changes in principals in the 24 R & D sites since the beginning of the school improvement programs in 1984-85.

Training in Managing Productive Schools will be available to principals and other administrations involved in the Minnesota Educational Effectiveness Program as of the 1988-89 school year. This program is based on the Productive Schools Model developed by Robert Anderson and Karolyn Synder. Research referenced, the program identifies 10 competencies for effective managers and provides training modules for each modules. This program is being sponsored by SDE.

Colleges and Universities

Five (5) state colleges/universities have received Mellon Foundation grants made available through SDE. The purpose of the grants is to enhance the support/communication system between the institution and local school districts. For example, one university is creating an infrastructure to assure the continuing support of beginning teachers from initial employment through establishment of tenure. Another university is establishing a base of support for the development of more effective teacher training in the writing process.

CONCLUSIONS

Based on the findings reported, the following conclusions regarding the status of the Minnesota Educational Effectiveness Program have been made.

1. The Minnesota Educational Effectiveness Program is being implemented in 328 schools across Minnesota.
2. Grounded Theory methodology is being used to generate a theory about the operationalization of the Minnesota Educational Effectiveness Program in Minnesota schools.
3. A database of student achievement results in the areas of reading, math, language arts and test battery composite score has been developed. The database is comprised of achievement test results beginning with the 1983-84 school year through 1986-87 for 19 R & D sites.
4. For the majority of the statistical comparisons using the non-parametric Mann-Whitney U Test or the parametric t test with a z score, no statistically significant changes were found between the base line results (1983-84) and the subsequent 3 years of results in the grade levels 3, 4, 5, 6, 7, 9, and 11 for reading, math, language arts and composite test battery in the R & D sites. This means that any observed differences should be attributed as chance occurrences.

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6. A new concern to emerge for R & D sites is how to evaluate its school improvement program.
7. Length of participation appears to be a determinant of patterns associated with the implementation of a school improvement program. These include: type of activities conducted, which of the 15 characteristics selected as a focus for a school improvement program, how regional facilitators are used.
8. Data gathered during 1986-87 re-identified a set of variables that if these are present in a school, it enhances a school's chance of implementing a successful school improvement program.

Two additional variables were identified through data gathered during 1986-87. They are: the role of the principal and the level of training for leadership teams during the third year of involvement.

9. The Minnesota Educational Effectiveness Program has been expanded to develop a greater support for schools at the local level. A local coordinator program and Managing Productive Schools training for principals and administrators.

RECOMMENDATIONS

Based on the findings of this report, the following recommendations are offered.

1. The database of student achievement test results should continue to develop and expand. The availability of a continually expanding database will allow the program to be documented as reliable and valid.
2. Regional facilitators should work with sites in using the formative evaluation process, a component of the Minnesota Educational Effectiveness Program. This should assist sites concerned about providing evaluation information about their school improvement program.
3. SDE Educational Effectiveness staff, regional facilitators and local coordinators should be knowledgeable about variables that may affect a school's success in implementing a school improvement program. This should enable them to identify "at-risk" sites and offer the additional technical assistance that may be needed.
4. SDE Educational Effectiveness staff must continue to clarify the roles of regional facilitators and local coordinators so that each complements the other. Also networks should continue to be built between the two groups so that each views the other as integral to the implementation of the Minnesota Educational Effectiveness Program.
5. SDE Educational Effectiveness staff and the program's Advisory Task Force should constantly explore alternatives and components that can enhance the program's development and insure the program's participants needs are adequately met.